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which was total in the Hellespont, seems to show that this was the eclipse of Agathocles; and, if so, the shadow passed north of Sicily. This is compatible only with the smaller value of the acceleration.

If we accept these conclusions or interpretations, nothing is left to support the larger value of the acceleration except the eclipses of Thales and of Larissa, while against it stands an array of evidence which I cannot but regard as many times stronger.

The Parallax of α Tauri. By Prof. Otto Struve.

(*Extract from a Letter to Mr. Gill.*)

With regard to parallaxes the following recent fact will be of some interest for you. During the last few weeks I have been engaged in preparing for publication my second volume of double star measures (vol. x. of the *Observations de Poulkova*). On this occasion I was struck with the remark that about thirty years ago I had collected for *α Tauri* twenty-five measures of each coordinate, and seeing that these measures were favourably distributed in different seasons, I proposed to one of my assistants, M. Shdanow, to investigate if they did not exhibit traces of a sensible parallax. The results of his computations were rather surprising. From the distances he found

$$\pi = +0''\!.500 \pm 0''\!.075,$$

and from the positions

$$\pi = +0''\!.538 \pm 0''\!.089.$$

the mean being

$$\pi = +0''\!.516 \pm 0''\!.057.$$

Such an annual parallax would hardly be expected for a star having so small a proper motion as *α Tauri*, but the agreement of the two values, obtained by two so totally different methods of observation as those of distance and direction, can certainly not leave a doubt as to the existence of a comparatively large parallax, though perhaps, according to the probable error, the real parallax might be somewhat less than that given by my measures.

If you think proper you have my authority to communicate this result to the Royal Astronomical Society.

Pulkowa: 1884, *March* 1.

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On an Instance of Change of Personality in Observing Position Angles of Double Stars; and on the Orbit of α Centauri. By A. M. W. Downing, M.A.

In vol. xlvii. of the *Memoirs* of this Society there is a paper by Mr. H. C. Russell containing observations of double stars made at the Sydney Observatory during the years 1870–1881. In this paper will be found a considerable number of observations of *α Centauri*, some of the earlier of which have been used by Dr. Elkin in the determination of the orbit of this binary star contained in his valuable paper, *Ueber die Parallaxe von α Centauri.* But a good many of the Sydney observations made since 1877·5 have not been used in Dr. Elkin's investigation; and these, together with some recent measures by M. Hall, Ellery, and Tebbutt, are available for determining corrections to Elkin's elements in order to obtain an orbit which shall represent the later as well as the earlier observations.

With this object in view the necessary calculations were made, and it was found that, in the mean, the position angles computed from Elkin's elements required corrections of $-7\frac{1}{2}^{\circ}$ in 1878, and of $-3\frac{1}{4}^{\circ}$ in 1879–81, to make them agree with the observed position angles. An attempt was then made to modify Elkin's elements so as to make them represent the series of observed angles. After working at the subject for some time, however, I convinced myself that these corrections were erroneous, as I was unable to construct an ellipse which would satisfy the earlier as well as the later measures. As it was the introduction of the Sydney observations made after 1878·0 which caused the great discordance between the computed and observed angles, I determined to exclude them, and then found that the requisite corrections became $-1^{\circ}{\cdot}14$ in 1878 and $-1^{\circ}{\cdot}26$ in 1879–81. It was evident, then, that the corrections to the assumed elements would be quite small, and I proceeded to find them in the manner now to be described.

From a consideration of the outstanding errors of position angles computed from the assumed elements, the following seven normal places were formed (the angles being measured from the circle of declination passing through the principal star at 1860·0):—

	Epoch.	Normal Angle.	Computed Angle.	Normal Distance.	Computed Distance.
		°	°	″	″
(1)	1827·530	213·34	213·27		
(2)	1835·997	219·34	218·81	16·84	16·69
(3)	1852·177	258·76	258·96	5·50	5·40
(4)	1858·745	335·05	335·12	4·69	4·85
(5)	1875·455	36·61	36·61	5·97	5·92
(6)	1878·380	139·23	139·01	1·96	1·85
(7)	1880·361	187·44	187·70	5·32	5·51

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